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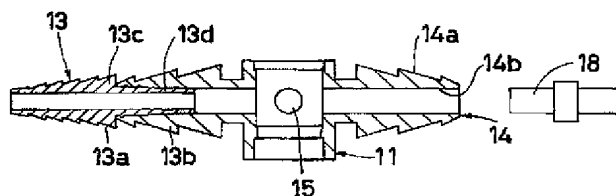
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(54) 【発明の名称】 三方活栓

(57) 【要約】

【課題】 大小の径を有するチューブに対応して、流体口ポートにおける安定した流体の流れを確保するようにした三方活栓を提供する。

【解決手段】 円筒状のボディ11と、このボディ11の外周面に形成され、ボディ11との内部空間と連通する第1ないし第3の流体口ポート13、14、15と、ボディに液密に且つ回動自在に嵌着されたコック本体12とから構成された三方活栓10において、着脱自在な先端部13cを上記流体口ポート13に装着できるようにした。



PATENT ABSTRACTS OF JAPAN

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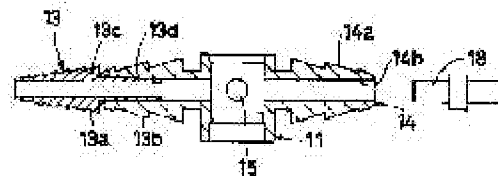
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(54) THREE-WAY COCK

(57)Abstract:

PROBLEM TO BE SOLVED: To provide a three-way cock which can correspond with a tube having large and small diameters, and ensure a stable flow of a fluid at the fluid port.

SOLUTION: This three-way cock 10 is constituted of a cylindrical body 11, first to third fluid ports 13, 41, 15 which are formed on the outer peripheral surface of the body 11, and communicate the body 11 with an internal space, and a cock main body 12 which is liquid-tightly and rotatably fitted in the body. In this case, a detachable leading end part 13c is fitted in the fluid port 13.



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CLAIMS

[Claim(s)]

[Claim 1]a cylindrical body, the 1st thru/or the 3rd fluid ports which is formed in a peripheral face of this body and is open for free passage with a building envelope with a body, and a body -- liquid -- in a three-way cock which comprised a cock body attached enabling densely and free rotation, A three-way cock equipping the above-mentioned fluid ports with a tip part which can be detached and attached freely.

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DETAILED DESCRIPTION

[Detailed Description of the Invention]

[0001]

[Field of the Invention]This invention relates to the three-way cock of medical application.

[0002]

[Description of the Prior Art]a body cylindrical in order that a medical-application three-way cock may simplify the structure, and this — liquid — constituting from two parts with the cock body attached enabling densely and free rotation is performed (for example, JP,62-174538,U). As a cap which blockades the fluid ports of such a three-way cock, and prevents adhesion of garbage etc., The cap which consists of a cap body and a corded electrode holder is proposed (for example, JP,61-293467,A), and he attaches an electrode holder to the body and fluid ports of a three-way cock, and is trying to prevent loss of a cap.

[0003]Here, in what that uses for a three-way cock etc. for a cap attaching with an electrode holder etc., when the cap after removing tends to stroll about and it is going to connect a syringe and a catheter to a three-way cock, it may become an obstacle of junction. Then, as a three-way cock with a cap acting as [also when this invention person does not lose the removed cap and it moreover connects SHIRIJIN and a catheter to a three-way cock] an obstacle, The three-way cock provided with the cap attached in one of said the fluid ports and the accommodation hole in which it is formed in the upper part of said tap, and a cap is attached was already proposed (JP,6-44554,U).

[0004]In this three-way cock, as shown in drawing 12, the 1st fluid ports 13 were formed in the telescope shape where that outside put two sorts of taper surfaces on multistage. One taper surface 13a is an object for the tubes of a byway, and the taper surfaces 13b of another side are a tube of a larger path than it, and an object for catheters. Thus, the taper surface of a byway and the taper surface of the larger path than this were made to continue, and the tubes from which the path of the stomach-tube catheter for pernasality, a feeding tube, etc. differs were made joinable. However, in such composition, when the inside diameter of the fluid ports 13 had to be doubled for the tubes of a byway, it had to be considered as a byway and the tube of a major diameter was used, these fluid ports 13 became a narrow segment, and had become a cause which produces disorder with the flow of a fluid.

[0005]

[Problem(s) to be Solved by the Invention]This invention is for solving an aforementioned problem.

The purpose is to provide the three-way cock which secured the flow of the stable fluid in fluid ports corresponding to the tube which has a large and small path.

[0006]

[Means for Solving the Problem]To achieve the above objects, the 1st thru/or the 3rd fluid ports which this invention is formed in a peripheral face of a cylindrical body and this body, and is open for free passage with a building envelope with a body, a body — liquid — it enabled it to equip the above-mentioned fluid ports with a tip part which can be detached and attached freely in a three-way cock which comprised a cock body attached enabling densely and free rotation

[0007]

[Embodiment of the Invention]Drawing 1 is a perspective view showing the three-way cock with a cap which carried out this invention. the cylindrical body 11 made of a synthetic resin with the transparent three-way cock 10, and this — liquid — it comprises the cock body 12 made of a synthetic resin attached

enabling densely and free rotation. On the body 11, the three fluid ports 13, 14, and 15 project at intervals of 90 degrees, and are formed in the hoop direction at it, and it has become T type-like by each ports 13-15.

[0008]As shown in drawing 2, the 1st fluid ports 13 are formed in the telescope shape where the outside put the taper surfaces 13a and 13b on multistage. The taper surface 13a is an object for the tubes of a byway, and the taper surfaces 13b are a tube of a larger path than it, and an object for catheters. Thus, in order to make the taper surface 13a of a byway, and the taper surface 13b of the larger path than this continue, the tubes from which the path of the stomach-tube catheter for pernasality, a feeding tube, etc. differs become joinable. Here, the adapter part (tip part) 13c provided with the taper surface 13a can be removed now as shown in drawing 3. The periphery of the root part 13d of this adapter part 13c, The taper and the shape of a thread type which incline towards the fluid ports 13 are attached, the taper and the shape of a thread type which incline towards the adapter part 13c corresponding to this also in the inner circumference 13e of the fluid ports 13 are attached, and these come to fit in each other mutually. By this composition, the adapter part 13c and the fluid ports 13 stick. By having composition which adopted the adapter part 13c at such a tip, corresponding to the size of the tube used, the fluid ports 13 where inside diameters differ can be formed, and the flow where flowing fluid was stabilized inside can be secured.

[0009]In this invention, as shown in drawing 4 and 5, only tapered shape can be adopted as other embodiments of the adapter part 13c, and the shape of a thread type can also be omitted. And a lure lock is employable as a mounting means of this tube. The adapter part 13c can also be used as two or more pans with multi stage composition rather than is so single as this embodiment. Of course, it is employable also as the 2nd fluid ports mentioned later.

[0010]The outside is used as the lure lock connector 14a of a male, and the 2nd fluid ports 14 are joinable [the various tubes of the suction tube 16 grade which has the lure lock connector 16a of a female die other than a straight tube]. As shown in drawing 2, the inside of the 2nd fluid ports 14 is used as the female-die lure slip connector which consists of the taper surface 14b, and the feeding pump tube 18 grade is joinable.

[0011]The 3rd fluid ports 15 are used as a MEDIKESHON port, and as shown in drawing 6, let them be a female-die lure slip connector which has the taper surface 15a which can connect the catheter chip syringe 56.

[0012]The red cap 25 is attached in these 3rd fluid ports 15. The cap 25 comprises a closed-end cylinder body made of a synthetic resin, and is provided with the inner skin 25a (refer to drawing 6) which fits into the peripheral face of the 3rd fluid ports 15. The flange 27 is formed and the pars basilaris ossis occipitalis 26 of the cap 25 can remove the cap 25 now easily. Inner skin is a taper and can be easily attached now by making the guiding action of insertion at the time of attachment of the cap 25.

[0013]As shown in drawing 7 thru/or drawing 9, the T type-like communicating path 30 is formed in the position corresponding to each ports 13-15 in the cock body 12. As shown in drawing 7, according to direction of the communicating path 30, the handles 31, 32, 33, and 34 are projected and formed in the upper part of the cock body 12 at intervals of 90 degrees in the hoop direction. The arrow 35 which shows for [a fluid] flows is thrown into relief by the handles 31-33 in the position corresponding to the communicating path 30 of T type, and the red paint is applied to the upper surface of this arrow. The character 36 of "OFF" which the handle 34 of the position in which the communicating path 30 is not formed is formed for a long time than other handles 31-33, and shows that a fluid does not flow into this is thrown into relief, and the red paint is similarly applied to this character upper surface. Thus, since only the handle 34 of an OFF display is formed for a long time, direction of the cock body 12 comes to be known simply. Therefore, the mistake of the switching operation of a tap can be prevented.

[0014]The accommodation hole 40 of the cap 25 is formed in the upper part of the cock body 12. This accommodation hole 40 is formed in the somewhat larger taper than the outer diameter of the cap 25, and can insert the cap 25 now smoothly. The peripheral face of the cap 25 may be formed in a taper instead of forming the accommodation hole 40 in a taper.

[0015]Next, an operation of this embodiment is explained. This is connected to the 1st fluid ports 13 after setting the stomach-tube catheter 50 for pernasality to a patient, as shown in drawing 10. The straight thump tube 51 is connected to the 2nd fluid ports 14. Then, it draws in by turning the cock body 12 so that the 3rd fluid ports 15 may become a position of OFF. After suction turns the cock body 12 so that the

handle 34 of an OFF display may turn to the fluid ports 13 by the side of a patient, it prevents spilling of the aspirate, and removes a tube from the 2nd fluid ports 13. Thus, since the cap 25 is attached and it has closed this in not using the 3rd fluid ports 15, penetration and adhesion into taps, such as garbage, can be prevented.

[0016]In nourishing, after connecting an alimentation tube (not shown) to the 2nd fluid ports 14, it turns the cock body 12 similarly so that the handle 34 of an OFF display may become a position of the 3rd fluid ports 15.

[0017]This is connected to the 1st fluid ports 13, after setting the stomach-tube catheter 50 for pernasality to the patient 55 as shown in drawing 11 in prescribing a medicine for the patient. The cock body 12 is turned so that the handle 34 of an OFF display may become a position of the 2nd fluid ports 14. Then, the cap 25 is removed from the 3rd fluid ports 15, and this is attached in the accommodation hole 40 of the cock body 12. Next, the catheter chip syringe 56 for medication is connected to the fluid ports 15 which removed the cap 25, and a drug solution is poured into them. After the end of medication turns the cock body 12 so that the handle 43 of an OFF display may become a position of the 3rd fluid ports 15, and it removes the syringe 56 from this port 15 after this. Then, the cap 25 is removed from the accommodation hole 40, and as shown in drawing 6, the cap 25 is returned to the 3rd fluid ports 15. Thus, in using the 3rd fluid ports 15, in order to insert the cap 25 into the accommodation hole 40 and to store it, garbage etc. do not advance or adhere in the cap 25. And since storing and holding is firmly carried out to the accommodation hole 40, the cap 25 does not become an obstacle in the case of connection of the syringe 56.

[0018]In the above-mentioned embodiment, although the case of stomach-tube alimentation and a drug solution injection was explained, the three-way cock with a cap of this invention can be used for a gastrolavage, drainage of the pleural space, bile duct drainage, vesicoclysis, intraperitoneal washing, etc. Although the cap 25 attached outside so that the inner skin of the fluid ports 15 may be covered was used in the above-mentioned embodiment, the cap of the inner fitting type inserted inside the fluid ports 15 may be used.

[0019]

[Effect of the Invention]As explained above, since this invention equipped fluid ports with the tip part which can be detached and attached freely, it can secure the flow of the stable fluid in fluid ports corresponding to the tube which has a large and small path.

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DESCRIPTION OF DRAWINGS

[Brief Description of the Drawings]

[Drawing 1] It is a perspective view showing the three-way cock with a cap which carried out this invention.

[Drawing 2] It is a sectional view showing the body of the three-way cock.

[Drawing 3] It is a sectional view showing the body of the three-way cock.

[Drawing 4] It is a sectional view showing the body of the three-way cock.

[Drawing 5] It is a sectional view showing the body of the three-way cock.

[Drawing 6] It is a sectional view of a body showing the state where the cap was attached.

[Drawing 7] It is a top view showing a cock body.

[Drawing 8] It is a sectional view showing the cock body.

[Drawing 9] the cock body is shown — it is a notch **** front view in part.

[Drawing 10] It is a perspective view showing connection of each tube in the case of performing suction treatment.

[Drawing 11] It is a perspective view showing the condition of use of medication processing.

[Drawing 12] It is a sectional view showing the body of the conventional three-way cock.

[Description of Notations]

10 Three-way cock

11 Body

12 Cock body

13 – 15 fluid ports

25 Cap

40 Accommodation hole

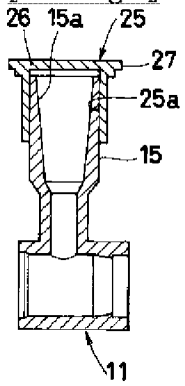
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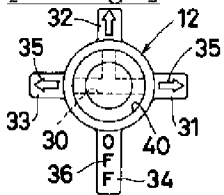
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DRAWINGS

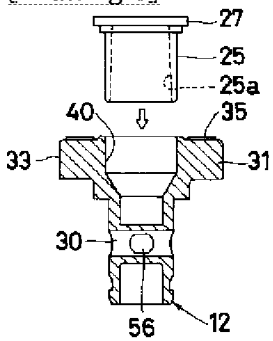
[Drawing 6]



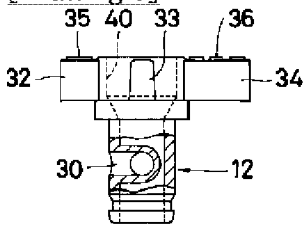
[Drawing 7]



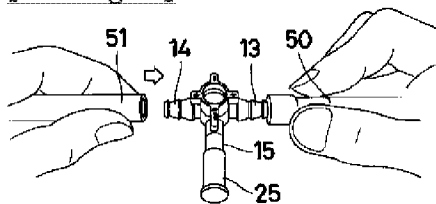
[Drawing 8]



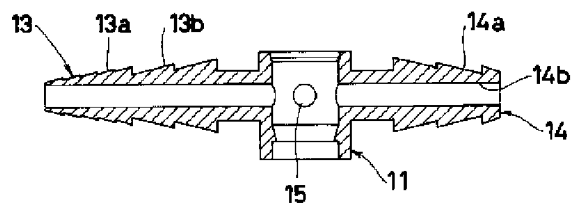
[Drawing 9]



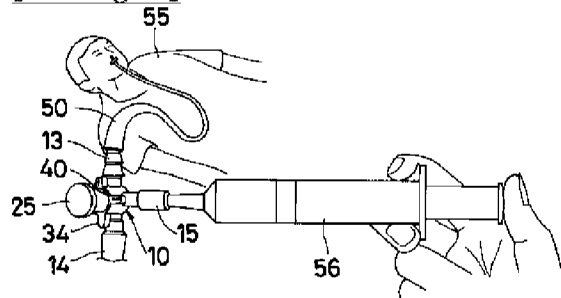
[Drawing 10]



[Drawing 12]



[Drawing 11]



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